SUBJECT INDEX

Vol. 134B, Nos. 1–4

ACE inhibitor, 593
Adenylyl cyclase mechanism, 11
Adipose, 315
Adults, 447
Aging, 271
Alanine–alanine–proline/valine-repeat, 519
Alcalase®, 669
Amino acid sequence, 53
Aminopeptidases, 143
Ammonium ions, 631
Amniotic, 315
AMP, 713
Amphibian, 509
Amylase, 669
Amylolytic activity, 529
Anaerobic metabolism, 713
Angiotensin-converting enzyme, 593
Antarctic, 651
Antioxidative activity, 215
Aquatic larvae of insects, 111
AR4-2J, 669
Argopecten purpuratus, 599
Arrowtooth flounder, 477
Arthropod, 489
Ascidian, 221, 417
D-Aspartate, 307, 713
L-Aspartate, 307
Aspartate racemase, 307, 713
Aspartate transcarbamylase, 615
Atlantic salmon, 467
ATP, 713
Autolysis, 477
Avian, 189
Ayu (*Plecoglossus altivelis*), 559

Bacillus amyloliquefaciens, 45
Bettongia gaimardi, 71
bHLH–PAS, 535
Bigeye snapper, 579
Bioavailability, 103
Biomarker, 615
Birds, 543
Blood shell, 307, 713
Blubber, 253
Blue crab, 631
BMAL1, 535
Bombina maxima, 509
Bombyx mori, 519, 535
Bovine, 315
Brown adipose tissue, 71
Bufo rubescens, 641
Bufonidae, 641
Bv8-like peptide, 509

c-DNA library, 389
Calcite, 63
Calcium, 499
Calcium entry, 417
Callinectes danae, 631
Calmodulin, 499
Captopril, 593
Carbon dioxide, 53
Carp, 399
Cartilage, 171
Cat, 151
Catfish, 399
Cathepsin B, 681
Cathepsin L, 477
cDNA, 509
cDNA cloning, 417, 499, 519, 681
Cell cleavage arrest, 499
Cerambycid beetle, 231
Chaenocephalus aceratus, 651
Channichthyidae temperature adaptation, 651
Chinese soybean food, 45
Cholecystokinins, 669
Cholesterol, 271
Choline, 271
Chordate, 221
CHSE-214, 181
Chymotrypsin, 143
Circadian rhythm, 535
CK, 399
Clams, 615
Classical pancreatic lipase, 151
Clock genes, 535
Cloning, 37, 535
^{13}C-NMR spectroscopy, 103
Cod, 407
Cod muscle, 669
Cold adaptation, 681
Collagen biosynthesis, 703
Collagen fibrils, 171
Collagens type V/XI, 171
Colorado potato beetle, 447
Cone opsin, 559
Cornea, 171
Creatine kinase, 651
Cross-reactivity, 467
Crustacea, 243
Crustaceans, 135
Cuticle protein, 489, 519
Cuticular surface lipids, 447
Cyanide, 515
Cycle gene, 535
L-Cysteine, 425
Cysteine protease, 681
Cysteine proteinase, 477
Cytidine, 271
Cytidine 5′-diphosphocholine, 271
Cytochrome b_5, 89
Cytochrome oxidase I gene, 199
Cytosolic, 381
Cytotoxic and hemolytic activities, 695

Daphnia magna, 243
α-D chain, 389
dCMP, 381
Degradation, 477, 579
Detoxification, 515
Development, 571
Developmental analysis, 161
DHA, 599
Diet composition, 253
Digestion, 143
Digestive gland, 367, 435
Disulfide bond, 135
Dlk-1, 315
Docosahexaenoic acid, 287
Dopamine, 277
Douchi, 45
Dunaliella tertiolecta, 599

Echinoderm, 89
Egg, 221, 417
Egg-laying, 593
Eggs, 447
Eggshell, 63
Electron spin resonance, 215
Energy of activation, 529
Enzymatic activity, 615
EPA, 599
Evolution, 171, 389
Exocrine pancreas, 151
Expression, 315
Extra-ocular rhodopsin, 559
Extracellular calcium, 417

FA1, 315
Fasting, 703
Fatty acid composition, 287, 335, 349
Fatty acid signature analysis, 253
Fatty acids, 111
Fecundity, 593
Feline, 151
Female gonad, 367
Fibrinolytic enzyme, 45
Fibroblast, 703
Firefly, 199
Fish, 265, 335, 349, 529, 543
Fish larvae, 103
Fish muscle, 477

G protein, 277
G-6-PDH, 399
Gadolinium, 417
Gametogenesis, 615
Gammarids, 111
Gastrin, 669
Gender, 287
Gene cloning, 161
Gene expression, 37, 519, 535
Gene localization, 161
Genotypic differences, 335, 349
Geochelone carbonaria, 389
Geochelone denticulata, 389
Gill microsomes, 631
Globin, 389

doi:10.1016/S1096-4959(03)00066-6

Goat, 515
Gonad, 435
Gonads, 615
Green abalone, 143
Greenback flounder, 467
Guinea pig, 37

H. papariensis, 199
H. parvula, 199
H. tsushimana, 199
Haemoglobin, 53
Haliotis fulgens, 143
Hemocyanin, 135
Hemocyte, 135
Hemoglobin subunit composition, 243
Heparin, 189
Heparin sulfate, 189
Hepatopancreas, 681
Herring, 399
Hexamerin, 489
Histone, 407
Hotaria unmunsana, 199
Hydrocarbons, 447
Hydrolysate, 669
Hypoxia, 243

Icefish, 651
IDH, 399
IGF, 703
IGFBP-1, 703
IGFBP-3, 703
IGFBPs phosphoisoforms, 703
Immunomodulator, 407
In situ hybridization, 559
Indispensable amino acids, 103
Indolealkylamines, 641
Innate immunity, 135
Insects, 447
Insulation, 253
Insulin superfamily peptides, 11
Intestine, 189
Invertebrates, 11, 171
Ionic strength, 89, 695

K^+-phosphatase activity, 631

Laminarin, 135
Landlocked salmon, 335, 349
LDH-A_2B_2, 399
LDH-B_4, 399
Leptinotarsa decemlineata, 447
Leucocyte, 407
Leucyl aminopeptidase, 231
Limulus polyphemus, 489
Lipid, 265
Lipid emulsion, 599
Lipids, 367
Lisinopril, 593
Liver lipid, 287
Luciferase gene, 199
Lymnaea stagnalis, 277

Magnesium, 63
Mammalian, 189
Mammals, 543
Marsupials, 71
Mass spectrometry, 447, 489
MDH, 399
ME, 399
MEF2, 123
MEF3, 123
Membrane-bound, 89
Metallothionein, 181
Metamorphosis, 599
Methylalkanes, 447
Mg/Ca ratio, 63
Midgut proteinases, 231
Milt, 407
Mitochondria, 199
Modori, 579
Molecular dynamics, 53
Mollusc, 435
Mollusca, 277
Mollusks, 79, 171
Morimus funereus, 231
Morris hepatoma 7777, 425
mRNA splicing, 315
MT, 181
MTF-1, 181
Muscle, 123, 435, 579
Mya arenaria, 615
MyoD, 123
Myogenin, 123
Myosin heavy chain, 579
Myotomal muscle, 651

(Na^+,K^+)-ATPase, 631
N-Methyl-D-aspartate, 79
N-Methyl-D-glutamate, 79
N-Methyl-L-glutamate, 79
N-terminal amino acid sequence, 151
Nattokinase, 45
Neurospora crassa, 161
Neurotrophic factor, 509
Nitric oxide, 277
Nitrogen conservation, 543
Non-erythrocyte, 381
Non-shivering thermogenesis, 71
Northern shrimp, 681
Notothenidae, 651
Novel isoform, 499
Nuclear histone H_1, 425
Nuclear hormone receptor, 37
5′-Nucleotidase, 381
Nutrition, 265

Osmolarity, 417
Ouabain, 631
Oxygen binding, 53
Oxygen equilibrium curves, 243
Oxygenase, 89

p-Nitrophenylphosphate, 631
P5N-I-like; 5′-Nucleotidase, 381

Palaeothermometer, 63
Pancreatic lipase, 151
Pandalus borealis, 681
Parotoid glands, 641
Partial characterization, 151
Partial purification, 381
Pecten maximus, 367, 435
Peptidase, 593
Peptide hormones, 593
Perchloric acid-soluble protein, 571
Peroxidation, 265
pH, 695
Phenoloxidase, 135
Phocid, 253
Phospholipids, 335, 349, 367
Phosphoprotein phosphatase 1, 161
Phosphorus, 63
Phylogenetic analysis, 199
Phylogeny, 641
Pig, 571
Pineal organ, 559
Pinniped, 253
Plasma homocysteine, 271
Polar, 651
Polar lipids, 111
Polyclonal antisera, 467
PPARγ, 37
PREF1, 315
Primary structure, 519
Promoter, 123
Properties of LDH-A_4, 399
Prophenoloxidase, 135
Proteasome, 297
Protein dephosphorylation, 161
Protein kinase, 499
Protein sequence, 489
Proteinase, 579
Proteinase inhibitors, 231
Proteinases, 143
Proteolysis, 297
Proteolytic activity, 143
PUFA, 335
PUFA conversion, 349
Purification, 45, 89, 151, 477, 579
Pyridoxal 5′-phosphate, 307
Pyrimidine, 381
Pyrimidine bases, 615
Pyruvate kinase type M_2, 425

R&R consensus, 519
Rabbit, 381
RACE, 389
Rainbow trout, 467
Raman spectroscopy, 265
Rat, 215, 271
Rat liver, 425
Rat tissues, 297
Rats, 703
Rebers–Riddiford sequence, 489
Receptor, 277
Reproductive cycle, 435

Reptiles, 389, 543
Respiratory burst, 407
Retina, 559
Retinal, 221, 559
Retinoic acid, 221
Retinoid, 221
Rhodanese, 515
Rhodopsin, 559
Rieske centre, 89
RNA polymerase II, 519
RT-PCR, 37
RTG-2, 181

S2 subsite, 681
Salmo salar, 335, 349
Salmon, 407
Salmon shark, 287
Saturated fatty acids, 599
Scallop, 435
Scallop larvae, 599
Scallops, 367
Scapharca broughtonii, 79, 307, 713
Season, 287
Sequence, 509
Sequencing, 37
Serine protease, 45
Sexual maturation, 615
Shrimp heads, 669
Sialic acid, 89
Silver, 181
Skeletal muscle, 315
Skeletal muscles, 215
Skin, 703
Skin glands, 641
Skin secretion, 641
Smelt, 559
Softening, 477, 579
Somite, 123
Southern elephant seal, 253
Spermatozoa, 399
Spin-trap, 215
St. Lawrence estuary, 615
Starfish, 695
Steroid glycosides, 695
Sterols, 367, 435
Stratification, 253
Sulfhydryl groups, 277
Superoxide, 407
Superoxide anion, 215
Superoxide dismutase, 215
Surimi, 579
Synthetic substrate, 231

Teleost, 651
Temperature, 695
Temperature characteristics, 529
Thermogenesis, 71
Thin-layer chromatography (TLC), 641
Thrombolysis, 45
Tilapia, 265
Tissues, 515
Toad, 509
α-Tocopheryl acetate, 265
Transcription factor, 37
Triacylglycerols, 111, 287, 335, 349, 367
Triglycerides, 271
TRP channel, 417
Trypsin, 143
Tunicate, 221
Two-dimensional electrophoresis, 243

Ubiquitin pathway, 297
Uncoupling proteins UCP1, UCP2, UCP3, 71
Urochordate, 221

Vanadate, 631
γ-Variant pyruvate kinase, 425
Vascular contraction, 509
Vertebrate, 221
Vertebrates, 11
Vitamin A, 221
Vitamin E, 265
Vitellogenin, 467

Western blot, 381
Western blot analysis, 37
Whale, 53

Xenopus laevis, 499
Xylophagous larvae, 231

Zebrafish, 123
Zinc, 181
Zymogram, 231

AUTHOR INDEX

Vol. 134B, Nos. 1–4

Abad, M., 367, 435
Abe, K., 307, 713
Ackman, R.G., 335, 349
Adachi, K., 135
Adams, T.S., 447
Aguilar, J., 271
Ahsan, Md.N., 681
Akuzawa, M., 571
Alaibakhsh, M.A., 515
Aminlari, M., 515
An, H., 477
Andersen, S.O., 489
Anyangwe, V., 123
Aoki, H., 681

Bae, J.S., 199
Bagossi, P., 161
Becher, B., 243
Benjakul, S., 579
Benjakul, S., 477
Best, N.J., 253
Biegniewska, A., 399
Božić, N., 231
Bordin, S., 389
Bradshaw, C.J.A., 253
Briand, M., 297
Briand, Y., 297

Campbell, P., 315
Cashon, R.E., 651
Castro, M.S., 641
Cechowska-Pasko, M., 703
Chaikina, E.L., 695
Chandrakasan, G., 171
Chang, R.-J., 265
Chen, W., 265
Choi, Y.S., 199
Clavel, S., 297
Conceição, L.E.C., 103
Corda, M., 53
Costa, F.F., 389
Cusack, M., 63

De Rosa, M.C., 53
di Prisco, G., 53
Dinis, M.T., 103
Ditzel, N., 489
Dohke, K., 519
Dombrádi, V., 161
Drabkin, V., 529
Du, S.Jun., 123
Duarte, A.S.S., 389

Ekbote, U., 593
Etchian, O.A., 615

Fais, A., 53
Farout, L., 297
Fatland, C.L., 447
Fehér, Z., 161
Ferroni Schwartz, E.N., 641
Fontes, W., 641
Fraser, A.C., 63
Furriel, R.P.M., 631

Gajardo, G., 599
Gao, J., 123
García-Carreño, F.L., 143
Gelman, A., 529
Gergely, P., 161
Giardina, B., 53
Gildberg, A., 407
Giménez, R., 271
Gladyshev, M.I., 111
Glatman, L., 529
Gollub, M., 89
Gotoh, N., 287
Grasdalen, H., 103
Gronczewska, J., 399

Harris, J., 71
Hindell, M.A., 253
Hirata, T., 135
Hirayama, A., 215
Højrup, P., 489
Hogstrand, C., 181
Hokari, S., 381
Huang, C.-H., 265
Huang, Q., 45
Huang, S.-L., 265

Ignacak, J., 425
Iino, T., 519
Irie, T., 221
Isaac, R.E., 593
Ivanchina, N.V., 695
Ivanović, J., 231
Izumi, S., 519

Jayasinghe, C., 287
Jin, B.R., 199

Kókai, E., 161
Kabat, A.P., 71
Kajiwara, S., 221
Kalachova, G.S., 111
Kaneki, K., 571
Kasai, T., 417
Kashiwayanagi, M., 417
Kawai, S.-i., 381
Kera, Y., 79, 307, 713
Khoo, B.Y., 37
Kicha, A.A., 695
Kim, I., 199
Kim, J.G., 199
Kim, K.Y., 199
Kim, S.E., 199
Kim, S.R., 199
Kiyohara, H., 397
Kling, P., 181
Komoda, T., 381
Kondoh, M., 417
Koyama, I., 381
Kume, S., 499
Kuno, S., 215
Kuz'mina, V., 529
Kuznetsova, L.A., 11

Lai, R., 509
Lamare, M., 297
Lamkemeyer, T., 243
Larondelle, Y., 335, 349
Leach, A., 181
Lee, K.S., 199
Lee, S.M., 199
Lee, W.H., 509
Leelapongwattana, K., 579
Leone, F.A., 631
Linhardt, R.J., 189
Liu, H., 509
Looker, M., U. 593
Luz Pérez-Parallé, M., 367

Maciel, N.M., 641
Makhutova, O.N., 111
Mantelatto, F.L.M., 631
Mao, W., 189
Markova, E.P., 535
Mase, K., 519
Masuda, K., 215
Masui, D.C., 631
Matsumoto, M., 571
Matsunaga, T., 381
Mayer, G.D., 181
McNamara, J.C., 631
Melo, M.B., 389
Mikoshiba, K., 499
Minamoto, T., 559
Miyazaki, T., 381
Moskvichova, A.V., 111
Munegumi, T., 79

Nagase, S., 215
Najimudin, N., 37
Nakagoshi, M., 519
Nakahara, Y., 397
Nakato, H., 519
Navarrete del Toro, M.A., 143
Nazifi, S., 515
Nelson, D.R., 447
Nenadović, V., 231
Nevejan, N., 599
Nichols, P.D., 253
Nishioka, T., 135

Ogo, S.H., 389
Oishi, K., 535
Oka, T., 571

doi:10.1016/S1096-4959(03)00067-8

Okamoto, K., 397
Olianas, A., 53
Olsen, R.L., 407
Olsson, P.-E., 181

Paľka, J., 703
Pankhurst, N.W., 467
Paul, R.J., 243
Pazos, A.J., 367
Pazos, A.J., 435
Pearson, R., 315
Pedersen, G.M., 407
Pellegrini, M., 53
Pellerin, J., 615
Peng, J., 335, 349
Peng, Y., 45
Pérez-Parallé, M.L., 435
Pertseva, M.N., 11
Pham, D., 335, 349
Pirow, R., 243
Plesneva, S.A., 11
Prokof'eva, N.G., 695
Prudnikov, I.M., 277
Pryce, A., 467

Ravallec-Plé, R., 669
Rodrigues Pires Júnior, O., 641
Rolf, S., 243
Rollin, X., 335, 349
Román, G., 367, 435
Rose, R.W., 71

Sánchez, J.L., 367, 435
Saad, S.T.O., 389
Saez, I., 599
Sakaguchi, M., 135
Sakamoto, K., 535
Sakurai, M.H., 397
Samian, M.R., 37
Saneyoshi, T., 499
Sanna, M.T., 53
Sawada, H., 519
Schwartz, C.A., 641
Sebben, A., 641
Seki, T., 221
Serviere-Zaragoza, E., 143
Shaw, L., 89
Shibata, K., 79, 307, 713
Shimada, M., 417
Shimada, T., 535, 559
Shpakov, A.O., 11
Sidell, B.D., 651
Silva, A., 435
Singer, M.A., 543
Sivakumar, P., 171
Skorkowski, E.F., 399
Sohn, H.D., 199
Sorgeloos, P., 599
Sousa, M.V., 641
Stachel, T., 63
Stachurska, M.B., 425
Steiner, J.M., 151
Steiro, K., 407
Suguna, L., 171
Sun, B., 467
Sushchik, N.N., 111
Suzuki, H., 199
Suzuki, K., 571
Szöőr, B., 161
Szirák, K., 161

Takahashi, S., 79, 307, 713
Takeda, M., 535
Takikawa, S.-I., 519
Tamburrini, M., 53
Tanabe, K., 215
Tarui, A., 79
Tellam, R.L., 315
Tengku Muhammad, T.S., 37
Togawa, T., 519
Toida, T., 189
Torsoni, M.A., 389
Tsyvkin, V.N., 277

Ueda, H., 535

Van Wormhoudt, A., 669
Vayda, M.E., 651
Vázquez, V., 435
Visessanguan, W., 477
Visessanguan, W., 579
Vujčić, Z., 231
Vuocolo, T., 315

Wada, S., 287
Warda, M., 189
Watabe, S., 681
Watanabe, T., 307, 713
Watts, M., 467
West, A.K., 71
Williams, D.A., 151
Wilson, B.G., 151
Winnard, P., 651

Yamada, H., 397
Yamada, R.-H., 79
Yamada, R.-h., 307, 713
Yamamoto, T., 519
Yarden, O., 161
Yatzkan, E., 161
Yokosawa, H., 417
Yoshikawa, H., 307, 713

Zeis, B., 243
Zeke, T., 161
Zhang, R.-h., 45
Zhang, Y., 509
Zhang, Y.-z., 45
Ziętara, M.S., 399